

Claims

1 1. A method for providing end-to-end protection in a point-to-multipoint access
2 network, the access network providing at least one physical connection between a line
3 termination unit and a plurality of network units, each network unit being connectable to
4 end user equipment, the at least one physical connection comprising:

5 at least one distribution network connecting the line termination unit to the
6 plurality of network units, and

7 characterised in that protection switching between one of the at least one physical
8 connection and a further one of the at least one physical connection is provided by a
9 protection mechanism comprised in at least one of the plurality of network units.

1 2. The method according to claim 1, in which at least one of the plurality of
2 network units comprises a user network interface for interfacing the network unit with the
3 end user equipment.

1 3. The method according to claim 1, in which the access network is a passive
2 optical network.

1 4. The method according to claim 1, in which the access network is operated using
2 an asynchronous transfer mode (ATM) protocol.

1 5. The method according to claim 1, in which the access network provides a
2 connection according to an Ethernet protocol.

1 6. The method according to claim 5, in which the protection mechanism is provided
2 in the Ethernet layer.

1 7. The method according to claim 1, in which the protection mechanism is a
2 spanning tree algorithm.

1 8. The method according to claim 1, in which two separate physical paths are
2 provided between the line termination unit and the end user equipment, and the protection
3 mechanism further provides load-sharing over the two separate physical paths.

1 9. A point-to-multipoint access network comprising
2 a line termination unit having a first subscriber unit and a second subscriber unit ,
3 the first subscriber unit being connected to a first distribution network and the
4 second subscriber unit being connected to a second distribution network, and

5 at least one customer facility comprising at least one network unit, the at least one
6 network unit being connected to either the first distribution network or the second
7 distribution network and being arranged to interface either the first distribution network
8 or the second distribution network with end user equipment,

9 the at least one network unit comprising a protection mechanism for providing a
10 protection switching function between a first end-to-end connection between the line
11 termination unit and the end user equipment via the first distribution network and a
12 second end-to-end connection between the line termination unit and the end user
13 equipment via the second distribution network.

1 10. The point-to-multipoint access network according to claim 9, in which the at
2 least one of the plurality of network units comprises a user network interface for
3 interfacing the network unit with the end user equipment.

1 11. The point-to-multipoint access network according to claim 9, in which the first
2 and second distribution network comprises a passive optical network.

1 12. The point-to-multipoint access network according to claim 9, in which the
2 access network is operated using an asynchronous transfer mode (ATM) protocol.

1 13. The point-to-multipoint access network according to claim 9, in which the
2 access network provides a connection according to an Ethernet protocol.

1 14. The point-to-multipoint access network according to claim 13, in which the
2 protection mechanism is provided in the Ethernet layer.

1 15. The point-to-multipoint access network according to claim 9, in which the
2 protection mechanism is a spanning tree algorithm.

1 16. The point-to-multipoint access network according to claim 9, in which two
2 separate physical paths are provided between the line termination unit and the end user
3 equipment, and the protection mechanism further provides load-sharing over the two
4 separate physical paths.

1 17. The point-to-multipoint access network according to claim 10, in which the first
2 and second distribution network comprises a passive optical network.

1 18. The point-to-multipoint access network according to claim 17, in which two
2 separate physical paths are provided between the line termination unit and the end user

- 3 equipment, and the protection mechanism further provides load-sharing over the two
- 4 separate physical paths.